UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

November 1960

Part II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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Bureau of Commercial Fisheries
Biological Laboratory
P. O. Box 6121, Pt. Loma Station
San Diego 6, California

* Part I - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, Post Office Building, San Pedro, California

TOPOGRAPHIC CHART NOS. 6 AND 7

Topographic Chart No. 6 which shows seamounts and protuberances rising above the ocean floor between 17° N. and 23° N. latitude and 110° W. to 120° W. longitude and Topographic Chart No. 7 showing the character of the ocean floor in the area between 17° N. and 23° N. latitude and 120° W. to 130° W. longitude were printed in November. Of the 24 charts to be constructed for regions of the eastern Pacific Ocean, eight have now been completed. Charts may be obtained from an Inter-American Tropical Tuna Commission representative or by writing directly to our San Diego address.

SEA-SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN NOVEMBER 1960

Acknowledgements

The following organizations and stations contributed data for the November 1960 charts:

U. S. Weather Bureau, San Diego, California
U. S. Navy Fleet Weather Facility, North Island, San Diego, California
U. S. Naval Communication Station Balboa, Fort Amador, Canal Zone
U. S. Navy Branch Hydrographic Offices, Honolulu, Hawaii; Seattle, Washington; San Francisco and Wilmington, California
U. S. Coast Guard, Port Hueneme Light Station, Port Hueneme, California
U. S. Bureau of Commercial Fisheries, Biological Laboratories, Honolulu, Hawaii; La Jolla, California; Seattle, Washington
U. S. Bureau of Commercial Fisheries, Exploratory Fishing and Gear Research Base, Seattle, Washington
Hopkins Marine Station, Pacific Grove, California, by J. P. Balesteri
Inter-American Geodetic Survey by Rene Cortes at Salina Cruz, Mexico; David Ortega at Manzanillo, Mexico; Romeo Valencia at Pt. San Jose, Guatemala; Luis Lynch at Pt. Armuelles, Panama; V. E. Castillo at Tumaco, Colombia; Gualberto Tapia at San Cristobal, Galapagos; Jose Lanchimba at La Libertad, Ecuador; Raul Celis at San Juan, Peru; E. Lopez at Talara, Peru.

Inter-American Tropical Tuna Commission, La Jolla and Terminal Island, California
Kelco Company, San Diego, California
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Pacific Oceanographic Group, Nanaimo, B.C., by H. J. Hollister from observations by R. W. Collins at Kains Island Light, J. A. Bournazel at Cape St. James Light, B. Stuart at Amphitrite Point Light, J. M. Hartt at Langara Island Light
Scripps Institution of Oceanography, La Jolla, California, by Margaret Robinson and Hans Klein
Ships Frances Salman and Trolleggen

Charts

Figure 1.--Mean sea-surface temperatures (°F) derived from approximately 8000 observations. Squares show temperature at weather-ship stations. Numerals on shore are temperatures at coastal and light stations.

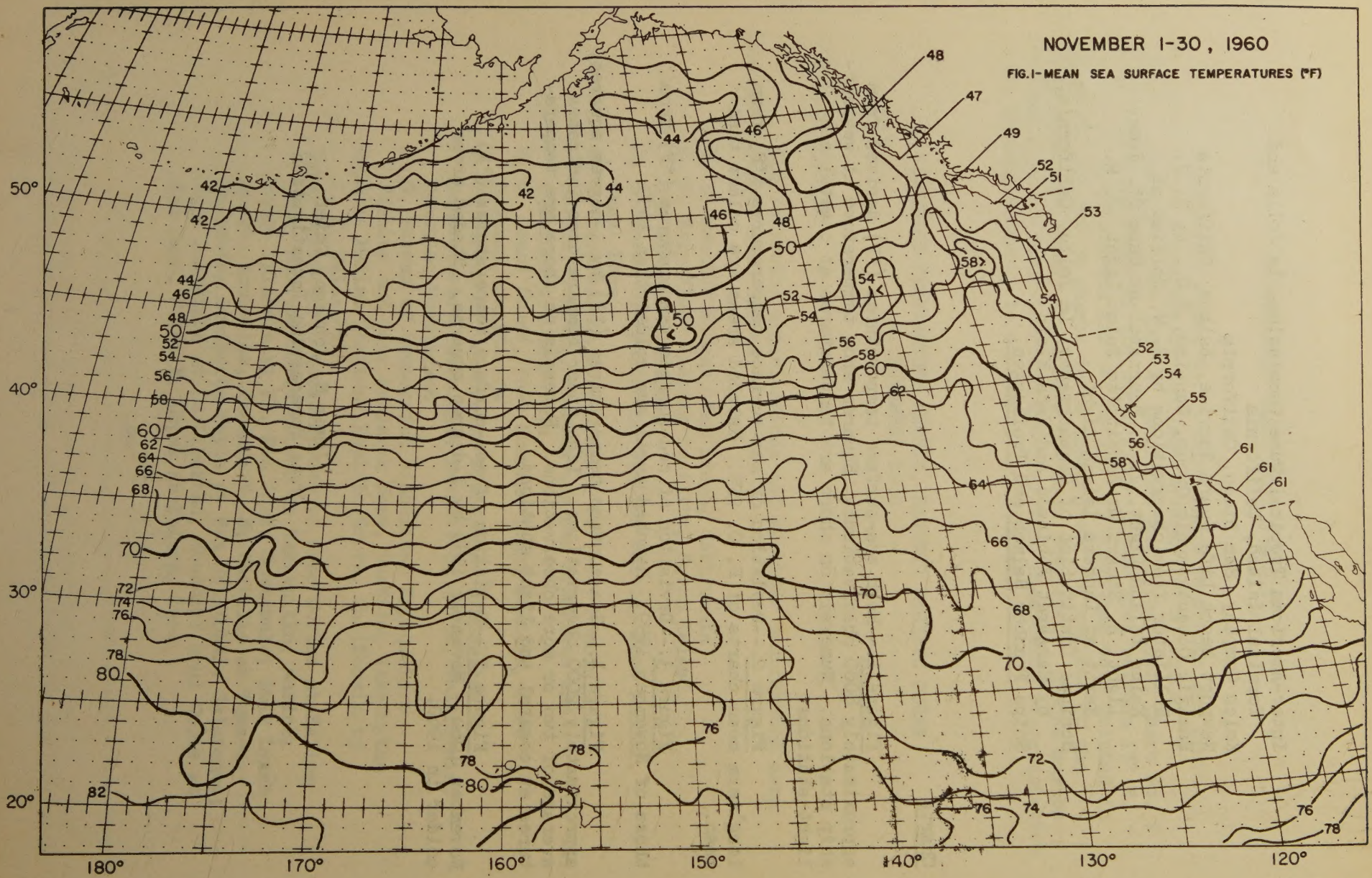
Figure 2.--Deviation of sea-surface temperatures (°F) from long term mean charts of H. O. 225. Hatched areas are colder than mean.

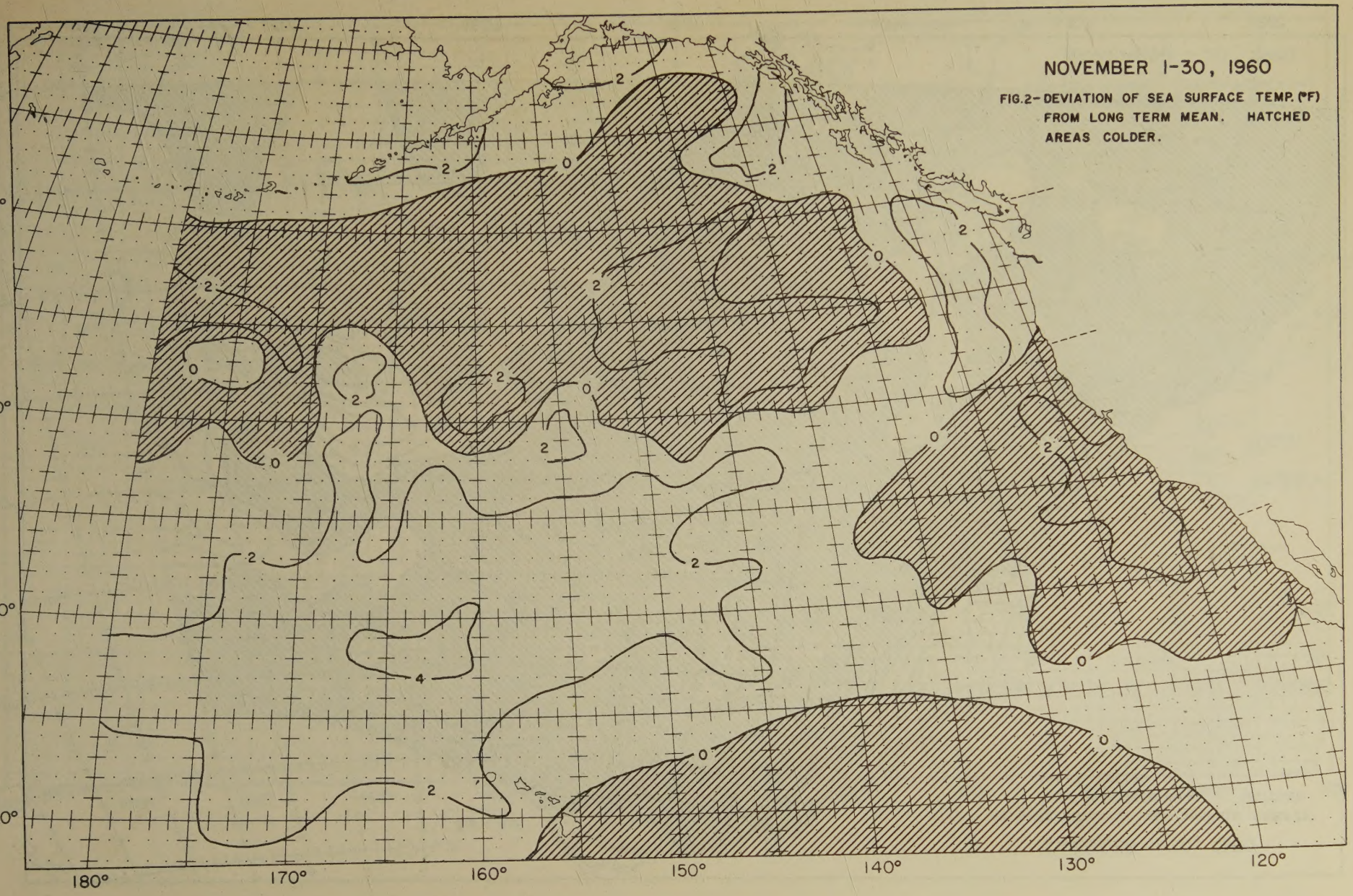
Figure 3.--Deviation of sea-surface temperatures (°F) from those of November 1959. Hatched areas are colder than 1959.

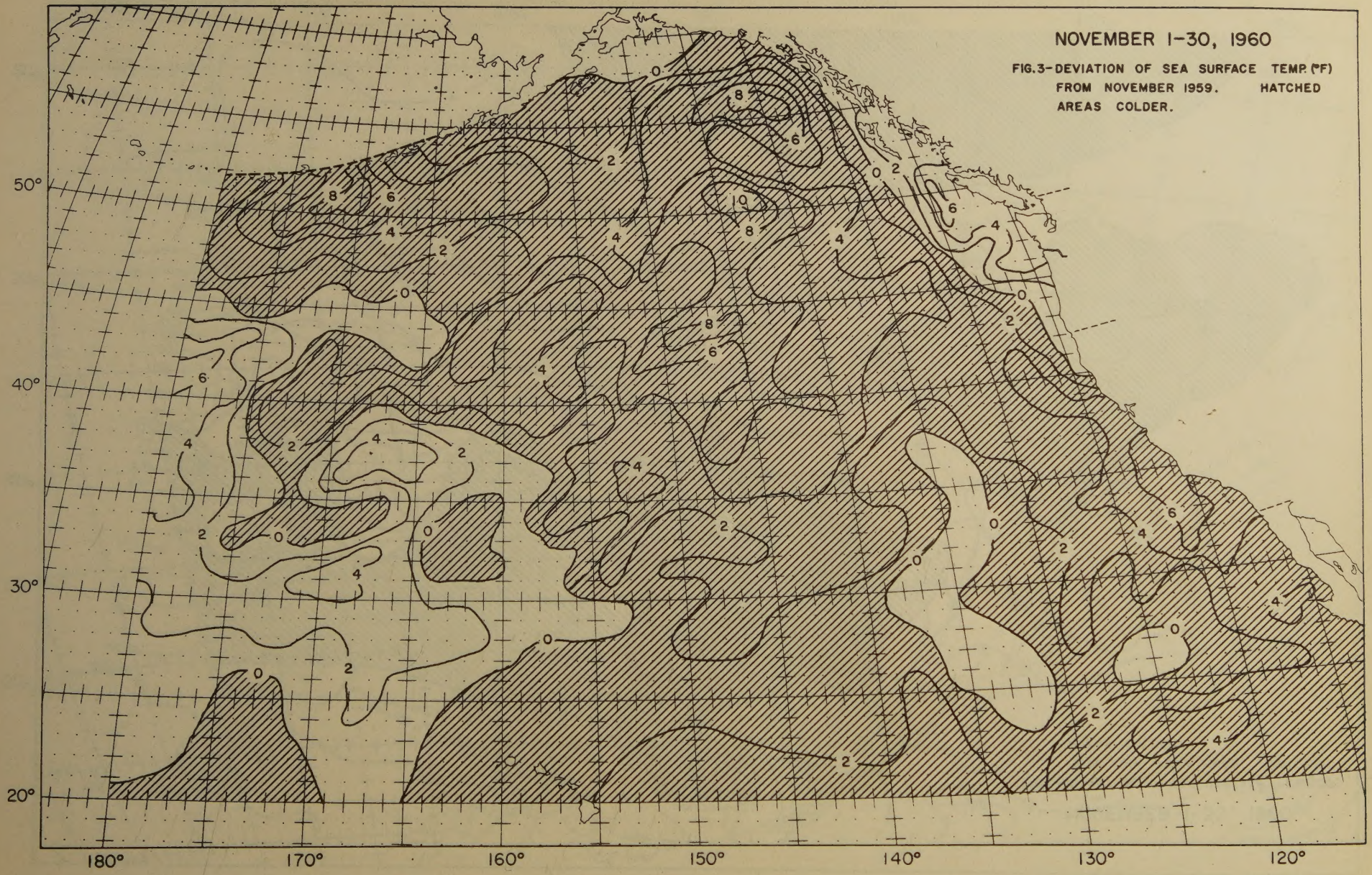
Figure 4.--Sea-surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal and light stations.

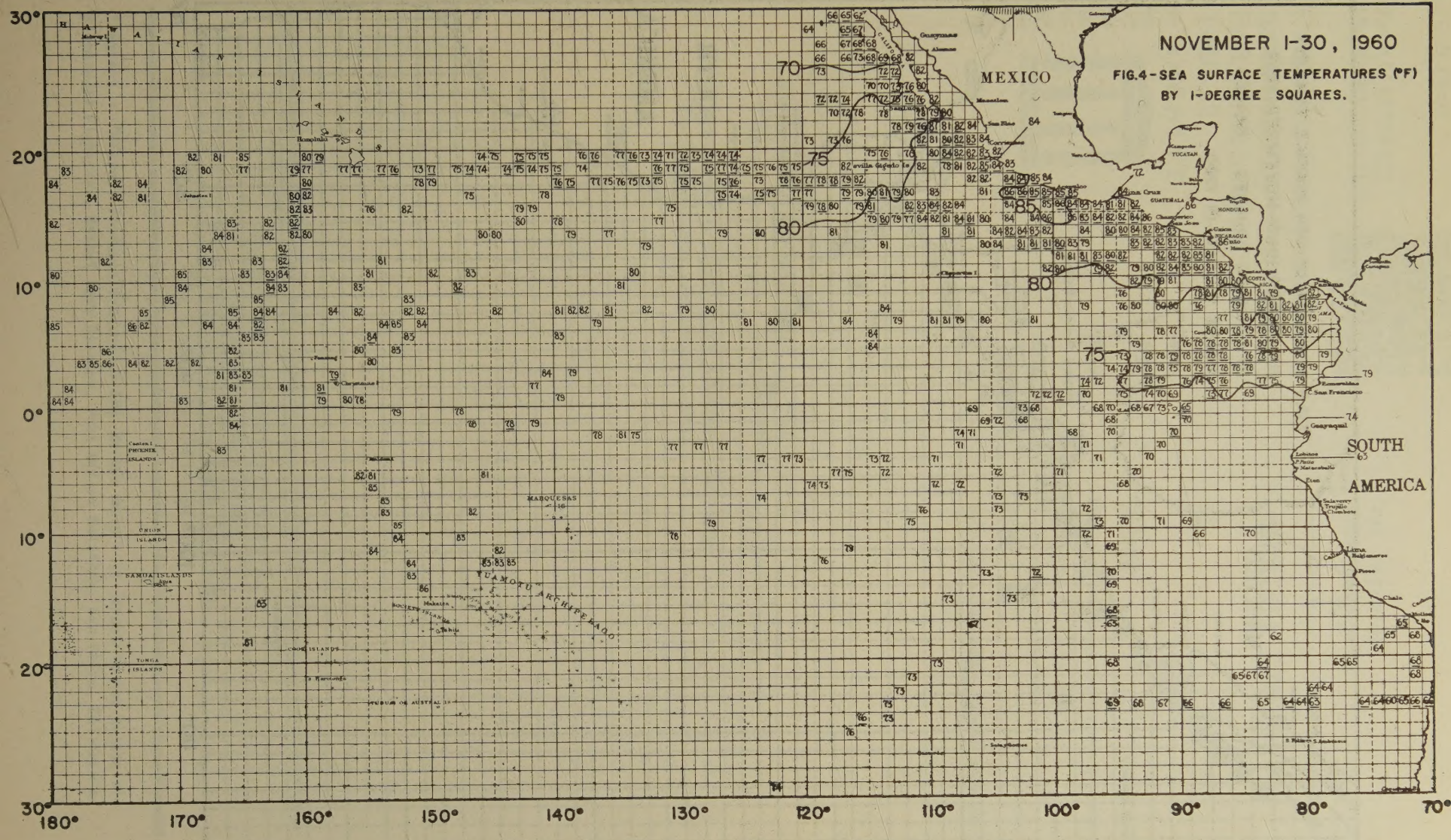
Figure 5.--Deviation of sea-surface temperatures (°F) November 1960 - November 1959 by 1-degree squares. Shaded areas colder in 1960.

James H. Johnson, Chief
Tuna Forecasting Investigation


NOVEMBER 1-30, 1960
FIG. 1- MEAN SEA SURFACE TEMPERATURES (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


NOVEMBER 1-30, 1960
FIG.2- DEVIATION OF SEA SURFACE TEMP. (°F) FROM LONG TERM MEAN. HATCHED AREAS COLDER.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
2
0
4


NOVEMBER 1-30, 1960
FIG.3-DEVIATION OF SEA SURFACE TEMP.(°F) FROM NOVEMBER 1959. HATCHED AREAS COLDER.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


NOVEMBER 1-30, 1960
FIG.4-SEA SURFACE TEMPERATURES (°F)
BY 1-DEGREE SQUARES.
MEXICO
SOUTH
AMERICA
HAWAIIAN ISLANDS
PHOENIX ISLANDS
LINE ISLANDS
SAMOA ISLANDS
TUNGA ISLANDS
COOK ISLANDS
SOCIETY ISLANDS
TUAMOTU ARCHIPELAGO
MARQUESAS
30°
20°
10°
0°
10°
20°
30°
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°

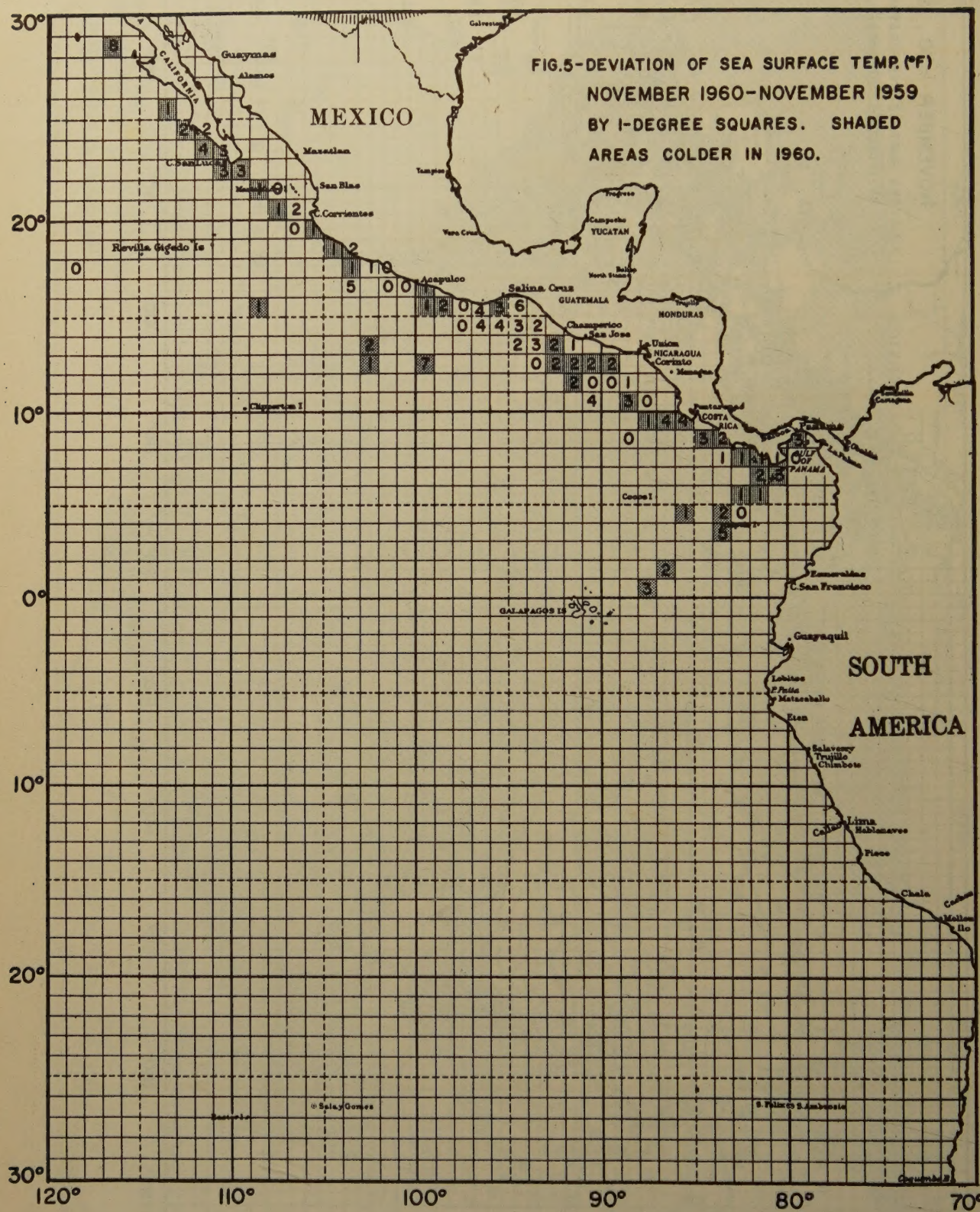


FIG.5-DEVIATION OF SEA SURFACE TEMP. (°F)
NOVEMBER 1960-NOVEMBER 1959
BY 1-DEGREE SQUARES. SHADED
AREAS COLDER IN 1960.
MEXICO
SOUTH
AMERICA
GUATEMALA
HONDURAS
NICARAGUA
COSTA
RICA
YUCATAN
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
C. Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
Corinto
Chipperton I
Cocos I
Guayaquil
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Mollendo
Ilo
30°
20°
10°
0°
10°
20°
30°
120°
110°
100°
90°
80°
70°